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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,052	01/15/2002	Warren Carl Couvillion JR.	109208	2931

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EXAMINER

RICHMAN, GLENN E

ART UNIT PAPER NUMBER

3764

DATE MAILED: 06/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/045,052

Applicant(s)

COUVILLION ET AL.

Examiner

Glenn Richman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

The rejection over art from the prior office action is maintained and incorporated herein by reference.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4-7, 13, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Epstein in view of Faughn.

Epstein discloses a pressure-sensing mat including a base layer (401).

Epstein does not disclose a plurality of pressure sensing elements formed over the base layer.

Faughn disclose a plurality of pressure sensing elements formed over the base layer (col. 5, lines 1-15).

It would have been obvious to use Faughn's "plurality" of pressure sensing elements, with Epstein's mat, as it is well known to use a plurality of pressure sensing elements, as taught by Faughn, for sensing a user in a virtual reality system, and as Epstein uses a sensor (801) for doing the same.

Epstein further discloses a top layer formed over the plurality of pressure sensing elements, wherein the plurality of pressure sensing elements output signals indicative of pressure applied to the top layer (fig. 7, col. 4, lines 44-61).

As for claim 2, Faughn further discloses the plurality of pressure- sensing elements make up a grid (col. 5, lines 1-15).

As for claim 4, Faughn discloses the base layer comprises a semi-rigid material (115).

As for claims 6 and 7, the rubber and plastics are obvious design choices, and are well known materials used in the manufacturing of VR environments.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 8- 10, 12, 15-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Faughn.

As for claims 8-10, 12 Faughn discloses a locomotion interface that outputs signals indicative of a user's position in real space (abstract), the locomotion interface including a pressure-sensing mat including a base layer (col. 14, lines 15-36), a plurality of pressure sensing elements formed over the base layer, and a top layer formed over the plurality of pressure-sensing elements (col. 14, lines 15-36), the plurality of pressure

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sensing elements output signals indicative of pressure applied to the top layer (col. 14, lines 15-36); a virtual reality processor that uses the signals output by the locomotion interface to produce an output indicative of the user's position in the virtual space corresponding to the user's position and movement in the real space; a display that uses the output from the virtual reality processor to produce an image of the virtual space (col. 3, lines 14 – et seq.), the display is a head mounted display (70), the plurality of pressure- sensing elements make up a grid (col. 5, lines 1-15), wherein the base layer comprises a semi-rigid material (115).

As for claims 15-17, Faughn further discloses the virtual reality a pattern generator that uses the signals output from the locomotion interface to generate a plurality of corresponding patterns (col. 5, lines 36 – et seq.), a motion identifier that uses the plurality of patterns generated by the pattern generator to identify a corresponding plurality of user positions and user movements (col. 5, lines 36 – et seq.); and a virtual environment rendered that uses the identified user positions and movements to generate a virtual space such that the user can effect, and be effected by, the virtual space (col. 5, lines 36 – et seq.), the plurality of positions identified by the motion identifier comprise at least one of a prone user position, a crawling user position, and a standing user position (col. 5, lines 36 – et seq.), at least one of a backward user motion, a sideways user motion, a forward user motion, and a diagonal user motion (col. 5, lines 36 – et seq.).

The method claims 18-20 are inherent in the corresponding apparatus claims and are rejected for the reasons above.

Claim 3, 11, are rejected under 35 U.S.C. 103(a) as being unpatentable over Epstein and Faughn as applied to claims above, and further in view of O'Heir.

Epstein and Faughn do not disclose the plurality of pressure- sensing elements comprise force sensitive resistors.

O'Heir discloses a plurality of pressure- sensing elements comprise force sensitive resistors (col. 4, lines 34-41).

**As to the applicant's arguments:**

1. Faughn discloses the signals generated by the EMs to be output to the virtual reality system are not based on pressure sensing but rather on disturbance in the electromagnet fields generated by closely adjacent and/or overlapping EMs. As such, Applicants respectfully submit that Faughn cannot reasonably be read to disclose, or even to have suggested, a plurality of pressure-sensing elements as are recited in the instant claim.

Applicant is directed to Faughn patent, column 5, lines 45-54, where Faughn discloses the use of a Calibration Strip which uses pressure sensing technology which reads on the application as claimed. Furthermore as Faughn's EM's are sensing a pressure col. 14, lines 15-35, this would read on the invention as claimed.

2. The features of Epstein are not combinable with the features of Faughn.

It is well established that nonobviousness cannot be established by attacking the references individually when the rejection is predicated upon a combination of prior art disclosures. See *In re Merck & Co. Inc.*, 800 F.2d 1091, 1097, 231 USPQ 375, 380 (Fed. Cir. 1986). Rather, the test for obviousness is what the combined teachings of the

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references would have suggested to one of ordinary skill in the art. See *In re Young*, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991) and *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). While there must be some suggestion or motivation for one of ordinary skill in the art to combine the teachings of references, it is not necessary that such be found within the four corners of the references themselves', a conclusion of obviousness may be made from common knowledge and common sense of the person of ordinary skill in the art without any specific hint or suggestion in a particular reference. See *In re Bozek*, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969). Further, in an obviousness assessment, skill is presumed on the part of the artisan, rather than the lack thereof. *In re Sovish*, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir. 1985). Insofar as the references themselves are concerned, we are bound to consider the disclosure of each for what it fairly teaches one of ordinary skill in the art, including the inferences which one of ordinary skill in the art would reasonably have been expected to draw therefrom. See *In re Boe*, 355 F.2d 961, 965, 148 USPQ 507, 510 (CCPA 1966) and *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not


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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenn Richman whose telephone number is 571-272-4981. The examiner can normally be reached on Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Huson can be reached on 571-272-4887. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Glenn Richman  
Primary Examiner  
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